





Government/Industry TES Sustainment IPT

9 May 2013

INDUSTRY BY INVITATION ONLY



Agenda



1. Purpose

2. Background

3. Ground Rules

4. New initiatives since last IPT

5. MILES Fleet roll-up sustainment data

6. Sustainment data by product
    - Maintenance actions
    - Top 5 failures
    - Status of analysis, if applicable
    - Cost control measures: WITS

7. Technical Data Status

8. Conclusion



Purpose



- Provide situational awareness and feedback to PM TRADE and ATSC to facilitate decision making

- Provide feedback to OEMs on how their products are doing in the field
  - Intent is to provide feedback in a team-oriented, solutions-focused environment

- Enhance user confidence

- Solicit possible solutions and good ideas



Background



How did we get here?

- Lack of available situational awareness and feedback on TES sustainment issues that could impact future funding, fielding, and design decisions

- Sustaining a feedback loop. All data has been updated from the last IPR. Last meeting established a feedback loop, now we are focusing on sustainment of that feedback loop.



Initiatives since last IPT

PEO STRI

LIFECYCLE MANAGEMENT

- Cooperation between PM LTS and FIELD OPS is at an all time high; feedback loops and communications channels in place and working
- Lifecycle costs quantified by relatively newly available data informs development and procurement decisions
- OPS LCPDs attend multiple LTS PMRs every month to address lifecycle issues and coordinate hand-off of sustainment support from OEM ICS to WFF
- OPS and WTA now review TDPs earlier and provide feedback to LTS



APM SNS Organization



Aaron Brown
APM SNS
407-384-5256
aaron.m.brown@us.army.mil

Gail Lenz
SNS Tech Data Support
407-384-5561
gail.lenz2@us.army.mil

Pat Bittikofer
Secretary (50% w/SRP)
407-384-3741
pat.bittikofer@us.army.mil

TEAM TES

Scott Becker
TES Lead LCPD[1]
407-384-5570
scott.becker1@us.army.mil

David Rainey
TES Ground LCPD[1]
407-384-3947
david.c.rainey@us.army.mil

Jerry Gout
TES Air LCPD
(LB TESS, AGES)
407-384-3940
jerry.gout@us.army.mil

TEAM MARKSMANSHIP

Conrad Ortega
DAPM & Team Lead
Lead EST 2000, LMTS, FATS LCPD
407-384-3766
conrad.ortega@us.army.mil

Rob Puglisi
SNS Program Support and Special Projects[2]
EST 2000 LCPD
407-384-3783
robert.puglisi@us.army.mil

TEAM LIFESAVER

George 'Don' Whitley
MCIT LCPD & Team Lead
407-384-5132
george.d.whitley@us.army.mil

Rayvan Davis
SMS, IEDES, BEMT LCPD
407-384-3779
rayvan.davissr1@us.army.mil

Anyoulyn Watts
CREW 2, NSTD, CCMCK LCPD
407-384-5348
anyoulyn.watts@us.army.mil

Tom Allen
MSTC LCPD
407-384-3144
tom.allen1@us.army.mil

TEAM ACT

Milton Cates
ACT Lead LCPD
407-384-3717
milton.cates@us.army.mil

Chris Keller
ACT LCPD
407-384-3748
chris.keller@us.army.mil

Notes:
1 - CTC MILES, MILESXXI, VIIP, Basic MILES, I-MILES, WITS, M2K, MGS, TOW ITAS, ITAS TESS
2 – As assigned by APM

Government | SETA



Ground Rules



- Focus on facts and issues
- What happened in the past is only valuable because it can inform what we do from here on
- Everybody must start with the assumption that everyone involved is trying to do the right thing:
  - no “throwing rocks”
  - no complaining



MILES Fleet Size as of APR 2013

Fleet Size - 256,714 Devices

IEDES; 558
CREW 2; 5,958
MGS TES; 361
CCMCK; 65
IWS; 54,242
Legacy; 104,308
OSV/MBT; 572
MK-19; 913
WITS; 8,630
UCD; 9,545
SLM; 6,[illegible]36
MILES XXI; 6,498
MILES 2000; 58,978

Based on best available data

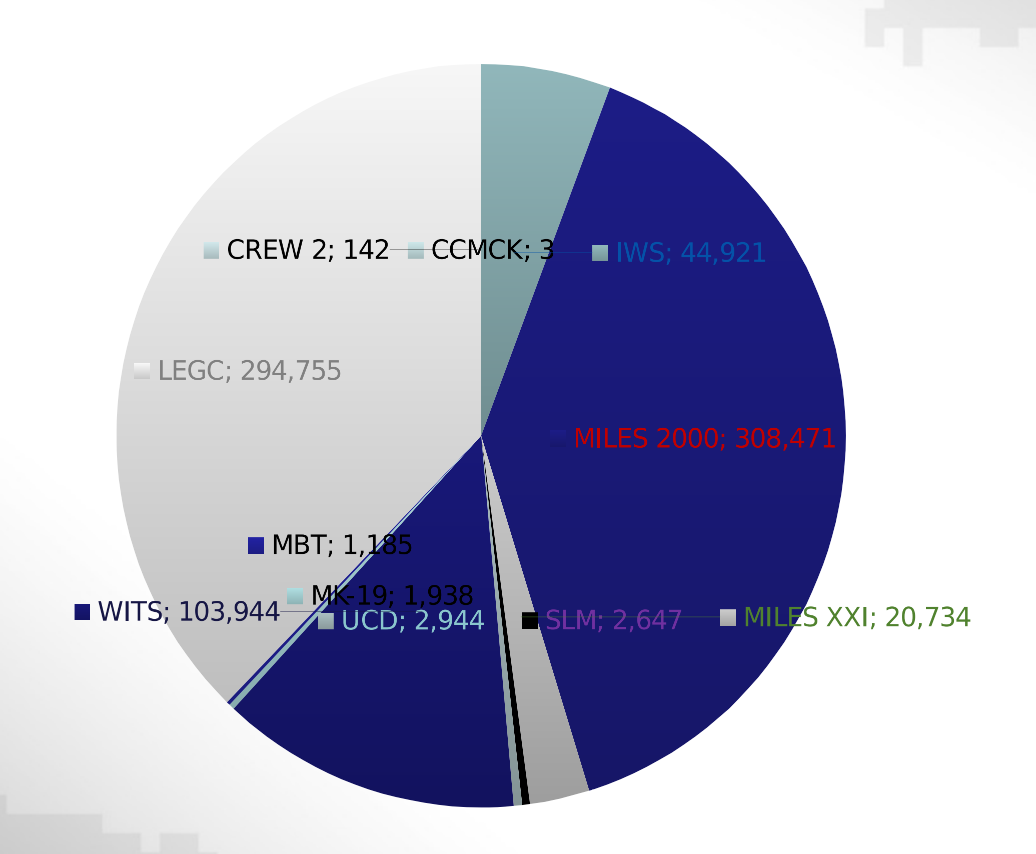
**CCMCK, CREW2, IEDES, and MGS TES are on T&M efforts.





Sample Size (approximately 60 Months)

Work Order Count by Device May 1, 2008 – April 22, 2013

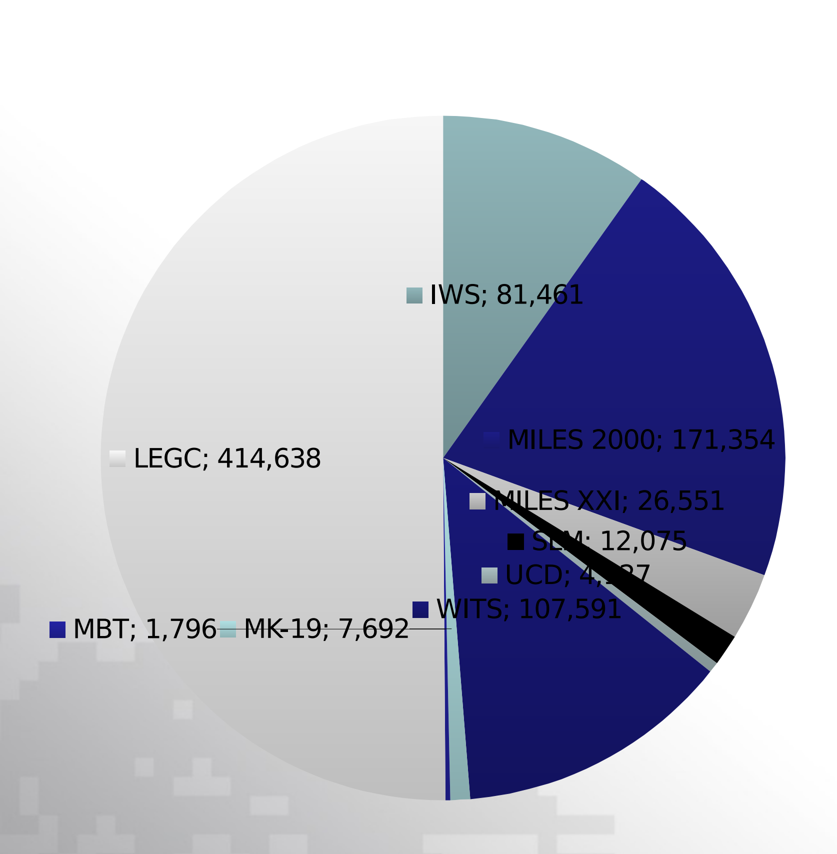


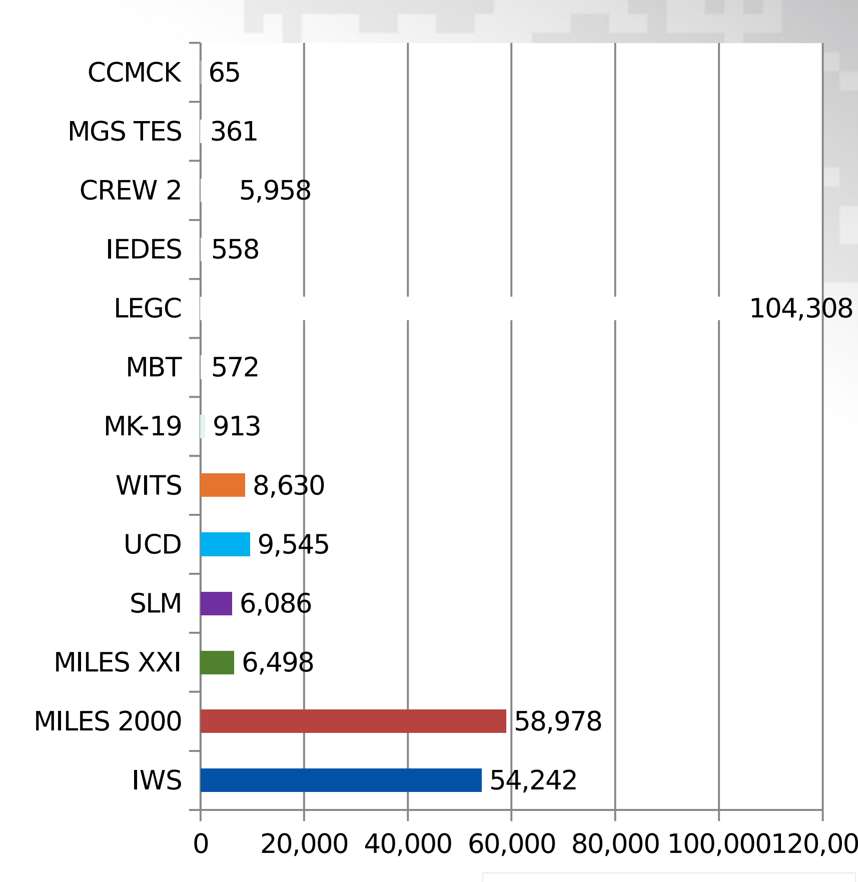




Labor

Labor Hours by Device



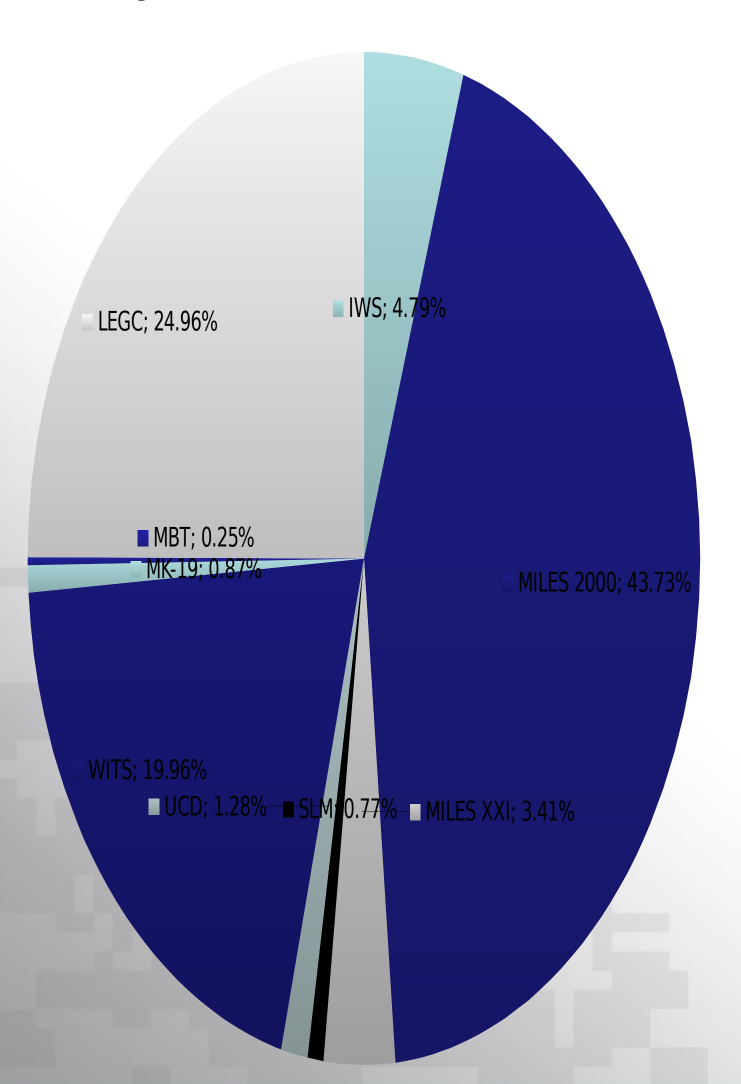


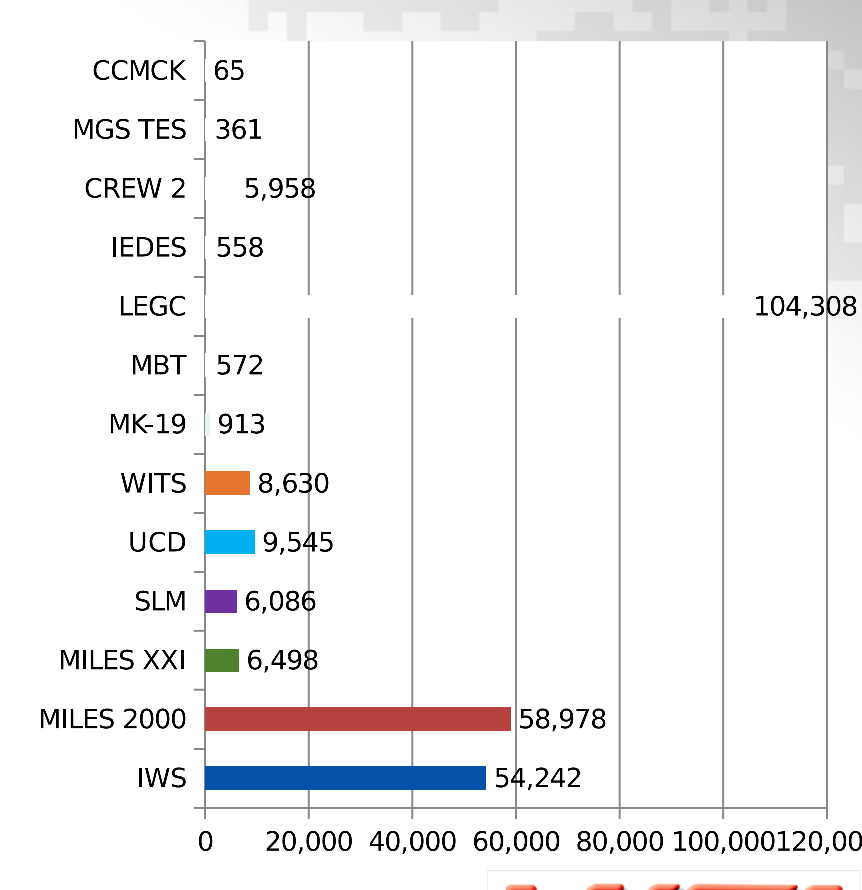
WARRIOR TRAINING ALLIANCE



Material Cost Comparison

Percentage of WO Material Cost



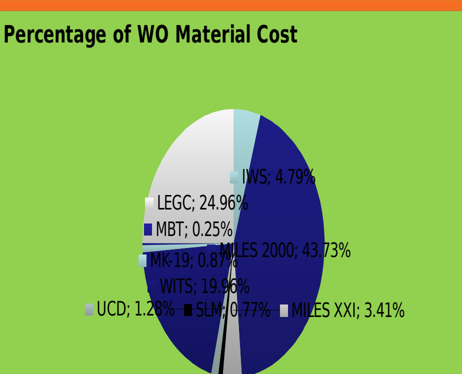


WTA
WARRIOR TRAINING ALLIANCE

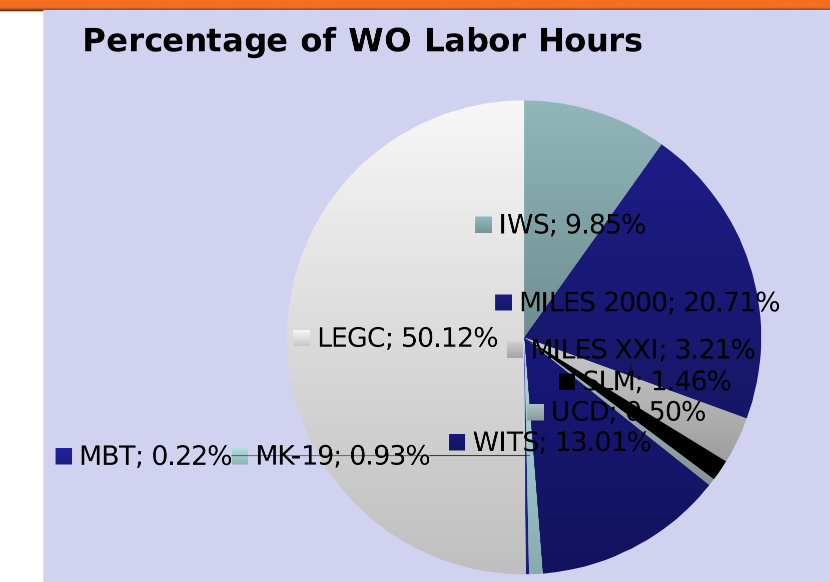


Comparison

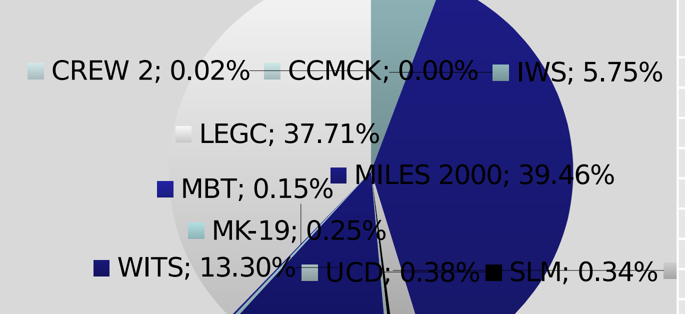
Percentage of WO Material Cost



Percentage of WO Labor Hours



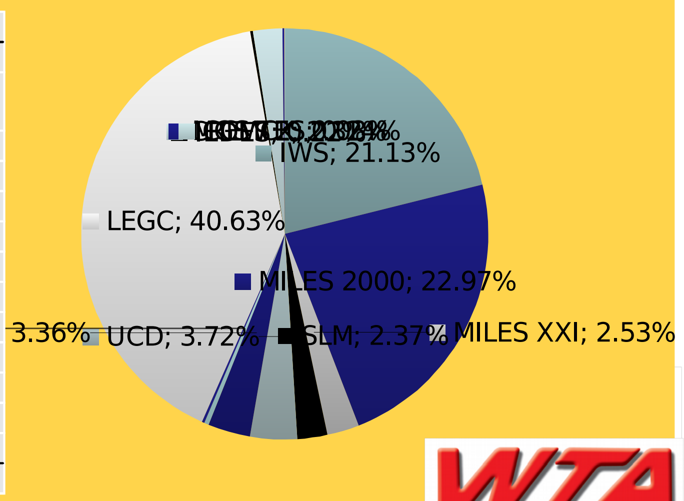
Percentage of Work Orders by Device



Device	WO Count
IWS	44,921
MILES 2000	308,471
MILES XXI	20,734
SLM	2,647
UCD	2,944
WITS	103,944
MK-19	1,938
MBT	1,185
LEGC	294,755
IEDES	0
CREW 2	142
MGS TES	0
CCMCK	3
Total	781,682

% of Total Fleet Size

Device	Fleet Size
IWS	54,242
MILES 2000	58,978
MILES XXI	6,498
SLM	6,086
UCD	9,545
WITS	8,630
MK-19	913
MBT	572
LEGC	104,308
IEDES	558
CREW 2	5,958
MGS TES	361
CCMCK	65
Totals	256,714



WTA
WARRIOR TRAINING ALLIANCE



IWS Maintenance Actions Over Time

IWS Maintenance Actions by Lot Year

Date	Lot Year	# of Work Orders
5/1/08 - 4/30/09	0	73
5/1/09 - 4/30/10	1	3863
5/1/10 - 4/30/11	2	12115
5/1/11 - 4/30/12	3	15149
5/1/12 - 4/22/13	4	13721

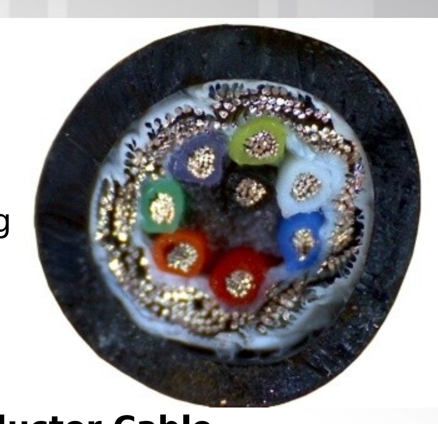
Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.



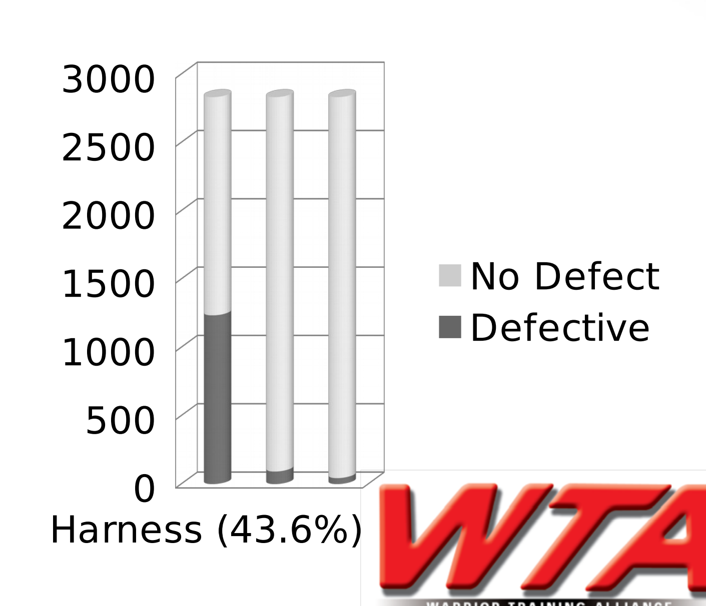
IWS Good News Story

Field Test at JMRC (Building 525)

- **Why field test conducted:** JMRC OPSGROUP reports IWS systems were not functioning properly and sampling by OPSGROUP QA/QC revealed high failure rate on IWS sets that were ready for issue.
- **Procedures:** Tested harnesses following simplified version of TM 23-6920-706-24&P. Added movement of the HCU/Harness to reveal broken wires in the Wiring Harness.
- IWS Sets Tested = 2831
- Test Results:
  - Halo (91 or 3.2% found Defective)
  - Transmitters (43 or 1.5% found Defective)
  - Harnesses (1234 or 43.6% found Defective)
  - Due to high percentage of electronic failures attributed to wiring harnesses during rotation 12-01, initiated analysis of the problem resulting in white paper. Paper was forwarded to PEOSTRI Field Operations in November 2012.
  - The Wiring Harness accounted for 90+% of the IWS Harness failures.
  - All failures found were in the 8 conductor cables
    - 77% of the broken wires were black.
    - Failed black wires were found in all three 8 conductor cables



8 Conductor Cable (3ea per harness)



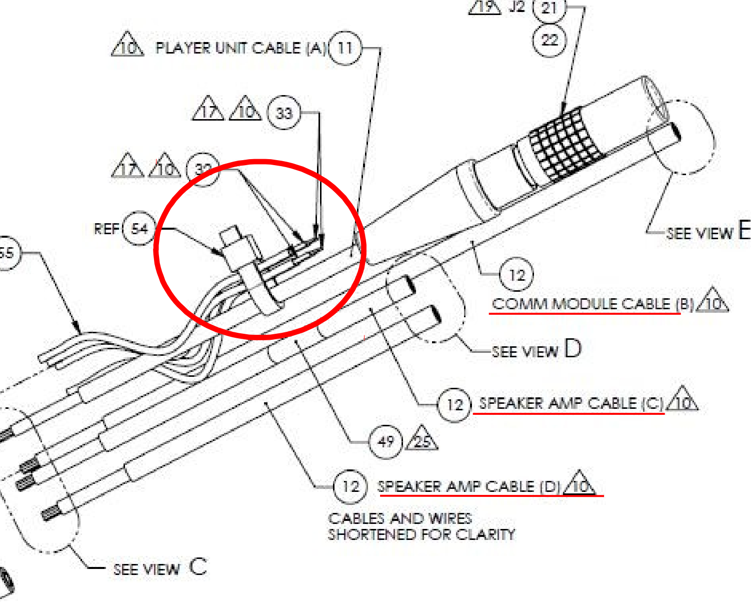


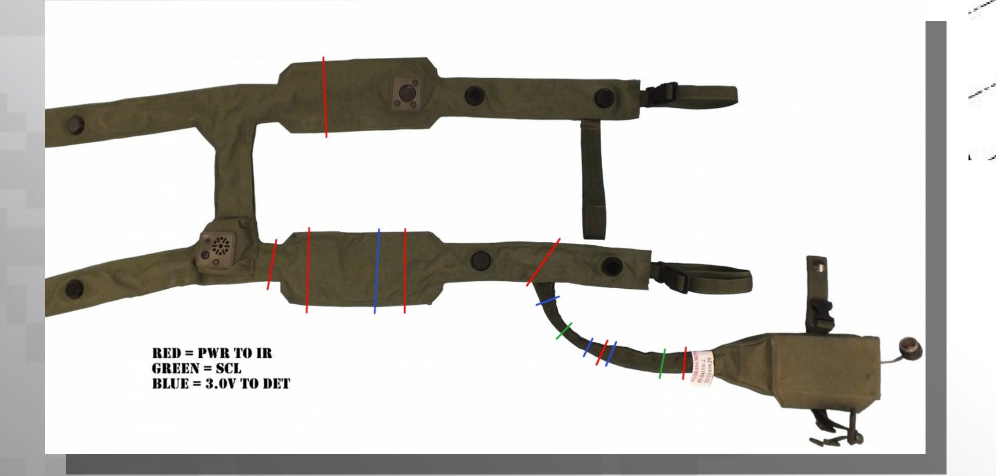
IWS Good News Story

Background

- 10/28/2011 – WTA-Germany noticed a pattern with IWS harness failures issue with Torso and isolated it to the black wire in the connector/harness assembly, and releases White Paper detailing issues.

- The teaming effort from that point until resolution of the problem included the maintenance activities of the life cycle contractor CONUS and in Germany, PEO-STRI Field Operations, PM-TRADE, and CUBIC to discuss black wire issue and paths forward.





- By spring, Cubic begins rework of first shipment of torsos. Cubic identified root cause to be wire used during the manufacturing process. Effort expanded to include rework of all torsos, at fielded locations, that are associated with manufacturing lots associated with the failed black wire.
- Rework effort is still ongoing.

WARRIOR TRAINING ALLIANCE

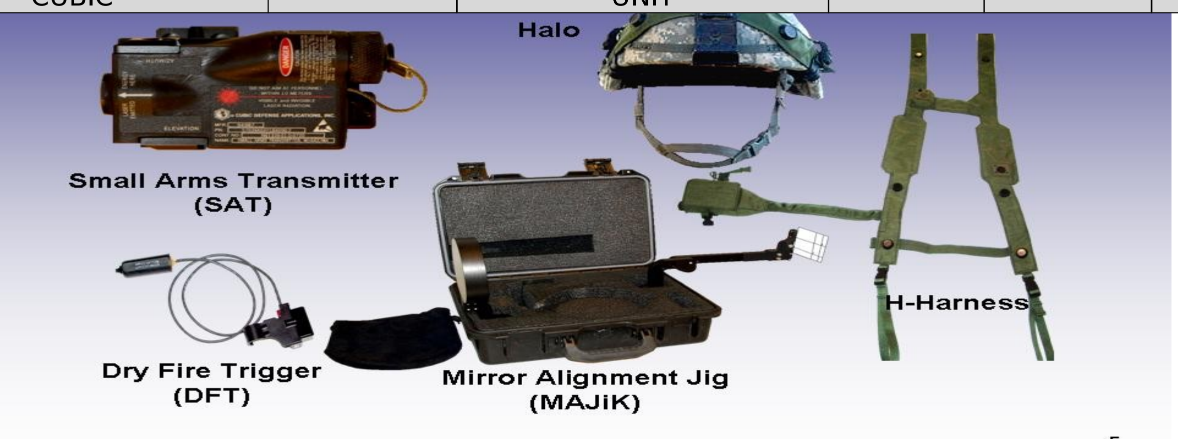


IWS

Cubic Defense Systems
Device Number: 23-66/67/68/69/70/71/76
Report Period: April 22, 2012 – April 22, 2013
System Fleet Size: 54,242

Top 5 Failures

#	System	Component Part Description	Component Part Number	Failed Part Description	Failed Part Number	# of Completed Work Orders	# of Consumed Parts	% of Total System WO Material Cost	Failures per Thousand *
1	IWS	H-HARNESS ASSY, IWS, CUBIC	184150-2	CONNECTOR, BACKSHELL ASSEMBLY, HARNESS, IWS	184157-3	526	465	15.717873 %	24
2	IWS	TRANSMITTER, SMALL ARMS ASSY, WITH M16A2/M4 ADAPTER (FLAT KNOBS)	184090-4	POST, LASER, ASSY (SAT 184090)	184255-11	277	238	14.747031 %	13
3	IWS	H-HARNESS ASSY, IWS, CUBIC	184150-2	LCD/KEYPAD, ASSY	184216-1	889	892	9.847275%	40
4	IWS	TRANSMITTER, SMALL ARMS ASSY, WITH M16A2/M4 ADAPTER (FLAT KNOBS)	184090-4	CCA, SAT MAIN, IWS (rep 184260-1)	184260-2	223	219	6.395404%	11
5	IWS	H-HARNESS ASSY, IWS, CUBIC	184150-2	CCA, HARNESS CONTROL UNIT	184230-1	138	138	5.096638%	7



* Indicates how many of that particular part failure will occur on average for every 1000 failures of components of the product line. Usefulness is contingent on sample size.





MILES 2000 Maintenance Actions Over Time

MILES 2000 Maintenance Actions by Lot Year

70000
60000
50000
40000
30000
20000
10000
0

59,553
56,621
64,900
62,115
65,282

36,794
32,927
38,133
35,517
35,3

5/1/08 - 4/30/09
5/1/09 - 4/30/10
5/1/10 - 4/30/11
5/1/11 - 4/30/12
5/1/12 -

of Work Orders
of Failures

Date	Lot Year	# of Work Orders	# of Failures
5/1/08 - 4/30/09	0	59553	36794
5/1/09 - 4/30/10	1	56621	32927
5/1/10 - 4/30/11	2	64900	38133
5/1/11 - 4/30/12	3	62115	35517
5/1/12 - 4/22/13	4	65282	35399



Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.



MILES 2000

Cubic Defense Systems
Device Number: 23-20/22/23/24/25/26/27/28/29/50/52/53/58/92
Report Period: April 22, 2012 – April 22, 2013
System Fleet Size: 58,978

Top 5 Failures

#	System	Component Part Description	Component Part Number	Failed Part Description	Failed Part Number	# of Completed Work Orders	# of Consumed Parts	% of Total System WO Material Cost	Failures per Thousand
1	M2K	SAT, M16A2/M4, LOT IV	148465-1	CCA, SAT LOT IV	146840-1	1584	1522	17.933621 %	26
2	M2K	SAT, M16A2/M4, LOT IV	148465-1	OPTICAL POST ASSY,replaced by 148437-1 SAT M2K (WITH RESONATOR)	148440-1Y	402	392	7.740010%	7
3	M2K	AUTOMATIC SMALL ARMS ALIGNMENT FIXTURE	147995-3	COLLIMATOR, LASER	271664-2	106	98	7.535730%	2
4	M2K	AUTOMATIC SMALL ARMS ALIGNMENT FIXTURE	147995-3	BEAMSPLITTER, RECTANGULAR	271682-7	25	23	7.079128%	1
5	M2K	AUTOMATIC SMALL ARMS ALIGNMENT FIXTURE	147995-3	GEAR TRAIN ASSEMBLY	271723-1	80	76	6.122391%	2









MILES XXI Maintenance Actions Over Time

MILES XXI Maintenance Actions by Lot Year

Date	Lot Year	# of Work Orders
5/1/08 - 4/30/09	0	1831
5/1/09 - 4/30/10	1	3302
5/1/10 - 4/30/11	2	2759
5/1/11 - 4/30/12	3	2932
5/1/12 - 4/22/13	4	3614

WARRIOR TRAINING ALLIANCE

Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.



MILES X

Lockheed Martin
Device Number: 23-94/95/96/99
Report Period: April 22, 2012– April 22, 2013
System Fleet Size: 6,498

Top 5 Failures

#	System	Component Part Description	Component Part Number	Failed Part Description	Failed Part Number	# of Completed Work Orders	# of Consumed Parts	% of Total System WO Material Cost	Failures per Thousand
1	MXXI	VCU ASSY, MILES XXI	2030464-2	PACK, BATTERY, LI, RECH	2030408-1	132	134	18.543748%	40
2	MXXI	VCU ASSY, MILES XXI	2030464-2	CCA, PREWIRE, IFC	2030494-2	83	77	8.727810%	26
3	MXXI	VCU ASSY, MILES XXI	2030464-2	CCA, VCU, POWER/CONTROL	2031374-3	43	39	8.327735%	13
4	MXXI	INTERFACE, VEHICLE CONTROL, MILES XXI (2031585)	2031585-1	CCA, VCI	2031387-1	24	22	8.109699%	8
5	MXXI	DETECTOR BELT, MILES XXI	2031050-1	HARNESS ASSY, BELT, MILES XXI	2031052-1	65	65	7.660841%	20









SLM Maintenance Actions Over Time

SLM Maintenance Actions by Lot Year

Date	Lot Year	# of Work Orders
5/1/08 - 4/30/09	0	73
5/1/09 - 4/30/10	1	543
5/1/10 - 4/30/11	2	470
5/1/11 - 4/30/12	3	653
5/1/12 - 4/22/13	4	908



Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.



SLM

Lockheed Martin
Device Number: 23-102
Report Period: April 22, 2012 – April 22, 2013
System Fleet Size: 6,086

Top 5 Failures

#	System	Component Part Description	Component Part Number	Failed Part Description	Failed Part Number	# of Completed Work Orders	# of Consumed Parts	% of Total System WO Material Cost	Failures per Thousand
1	SLM	WEAPON ASSEMBLY, ANTITANK, AT-4 (SLM AT-4 VISMOD PLUS ENGINE)	187547-1	REAR SIGHT, AT-4	187345-1	48	46	18.392922%	22
2	SLM	ROCKET PROPELLED GRENADE ASSY (SLM RPG VISMOD PLUS ENGINE)	187546-1	FRONT TUBE ASSY, RPG	187431-1	12	12	14.100494%	6
3	SLM	ROCKET PROPELLED GRENADE ASSY (SLM RPG VISMOD PLUS ENGINE)	187546-1	CENTER TUBE ASSY (Repl by 187446-3)	187446-1	16	16	13.678532%	8
4	SLM	WEAPON ASSEMBLY, ANTITANK, AT-4 (SLM AT-4 VISMOD PLUS ENGINE)	187547-1	PWA, CONTROL	187508-1	11	11	4.599394%	6
5	SLM	ROCKET PROPELLED GRENADE ASSY (SLM RPG VISMOD PLUS ENGINE)	187546-1	MNT ASSY, REAR SIGHT, RPG-SLM (Replaces -1,-3)	187457-5	15	15	3.234390%	7









UCD Maintenance Actions Over Time

UCD Maintenance Actions by Lot Year

Date	Lot Year	# of Work Orders
5/1/08 - 4/30/09	0	84
5/1/09 - 4/30/10	1	653
5/1/10 - 4/30/11	2	620
5/1/11 - 4/30/12	3	598
5/1/12 - 4/22/13	4	989

of Work Orders



Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.



UCD

Lockheed Martin
Device Number: 23-101
Report Period: April 22, 2012 – April 22, 2013
System Fleet Size: 9,545

Top 5 Failures

#	System	Component Part Description	Component Part Number	Failed Part Description	Failed Part Number	# of Completed Work Orders	# of Consumed Parts	% of Total System WO Material Cost	Failures per Thousand
1	UCD	UNIVERSAL CONTROLLER DEVICE	183571-1	PRINTED WIRING ASSY, DIGITAL, UCD (Replaces 183581-1)	183581-3	325	326	36.941676%	253
2	UCD	UNIVERSAL CONTROLLER DEVICE	183571-1	HOUSING SUBASSEMBLY, UCD	183599-1	80	78	36.764855%	63
3	UCD	UNIVERSAL CONTROLLER DEVICE	183571-1	PWA, ANALOG	183580-1	88	76	12.972426%	69
4	UCD	UNIVERSAL CONTROLLER DEVICE	183571-1	TRANSMITTER ASSY, UCD	183604-1	13	13	2.387477%	11
5	UCD	UNIVERSAL CONTROLLER DEVICE	183571-1	GRIP EXTENSION ASSEMBLY, UCD (REV C)	183584-1	74	74	2.159587%	58







WITS Maintenance Actions Over Time

WITS Maintenance Actions by Lot Year

35000
30000
25000
20000
15000
10000
5000
0

32,606
22,948
17,172
19,776
16,038
13,885
12,113
12,677
11,442
11,421

of Work Orders
of Failures

5/1/08 - 4/30/09
5/1/09 - 4/30/10
5/1/10 - 4/30/11
5/1/11 - 4/30/12
5/1/

Date	Lot Year	# of Work Orders	# of Failures
5/1/08 - 4/30/09	0	11442	11421
5/1/09 - 4/30/10	1	17172	13885
5/1/10 - 4/30/11	2	19776	12113
5/1/11 - 4/30/12	3	22948	12677
5/1/12 - 4/22/13	4	32606	16038



Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.

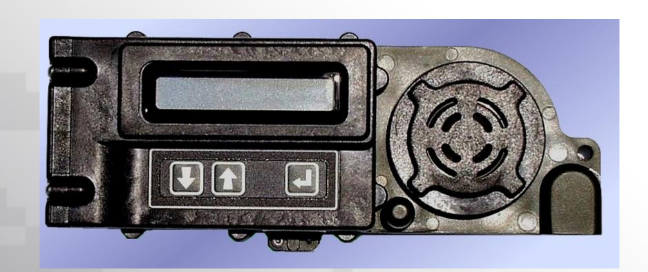


WITS

SAIC
Device Number: 23-97A-D
Report Period: April 22, 2012 – April 22, 2013
System Fleet Size: 8,630

Top 5 Failures

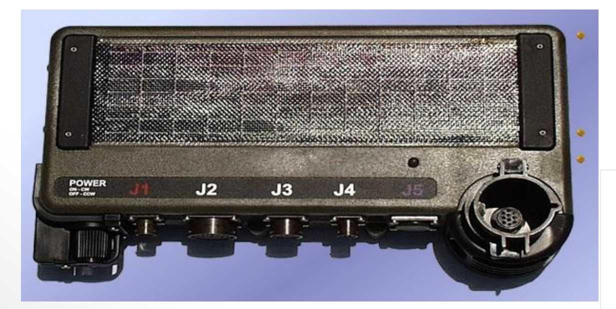
#	System	Component Part Description	Component Part Number	Failed Part Description	Failed Part Number	# of Completed Work Orders	# of Consumed Parts	% of Total System WO Material Cost	Failures per Thousand
1	WITS	STROBE MODULE, WITS	23445-1	LINK, DUAL, CCA, WITS, SAIC	23467-1	1012	961	12.785155%	28
2	WITS	MODULE, WIRELESS DETECTION, WITS	23425-1	DECODER, WIRELESS, WITS, CCA, SAIC	23428-1	1305	1265	10.693921%	36
3	WITS	STROBE MODULE, WITS	23445-1	CONTROLLER, WITS STROBE, CCA, SAIC	23505-2	1131	1042	10.170325%	31
4	WITS	MODULE, WIRELESS DETECTION, WITS	23425-1	ASSEMBLY, DETECTOR (WITS)	170161	655	633	9.292978%	18
5	WITS	STROBE MODULE, WITS	23445-1	MODULE, STROBE, CCA, WITS, SAIC	23459-1	1279	1259	8.771877%	35















WITS Strobe Module

16,828 WITS Failures since 1 May 2008

- Root cause with most failures is heat.
- Original flash capacitor not rated for the high internal operating temperatures compounded by desert environment.
- PM-Trade confirms deficiency in capacitor rating. (Feb 2011)
- PM-Trade delivers 181 “Enhanced” Strobes to NTC for testing in rotations. These have a capacitor with a higher temperature rating. (June 2011)
- Raytheon engineering study confirmed root cause failures. (Feb 2012)
- Raytheon engineering determines failure by heat is cumulative over time. (Feb 2012)

Results of Enhanced Strobe Tests

- 181 Strobes delivered
- 60 failures to date
- 27 converted back to original configuration (rev E) (limited material spares to keep operational as enhanced)





WITS Strobe Module

Conclusions of Enhanced Strobe Study

- Continuation of failures of Cap and or Strobe CCA – does not solve problem
- Failure rate is cumulative. After about three rotations, failures begin to increase

USG requests WTA seek alternate WITS Strobe to reduce lifecycle cost

- Query Industry for alternate strobe solutions
- One vendor offered modified strobe with Enhanced Capacitor – already tried
- One vendor offered modified strobe with metal housing to dissipate heat along with upgraded capacitor and other components
- One vendor offered a new strobe solution with LED strobe design

Next Steps

- Field OPS has coordinated to retain 20 WITS kits at the NTC (remainder are being cascaded to lower utilization sites due to

WTA
WARRIOR TRAINING ALLIANCE



MK19 Maintenance Actions Over Time

MK19 Maintenance Actions by Lot Year

Date	Lot Year	# of Work Orders
5/1/08 - 4/30/09	0	293
5/1/09 - 4/30/10	1	500
5/1/10 - 4/30/11	2	220
5/1/11 - 4/30/12	3	529
5/1/12 - 4/22/13	4	396

Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.



SAIC
Device Number: 23-98
Report Period: April 22, 2012 – April 22, 2013
System Fleet Size: 913

Top 5 Failures

#	System	Component Part Description	Component Part Number	Failed Part Description	Failed Part Number	# of Completed Work Orders	# of Consumed Parts	% of Total System WO Material Cost	Failures per Thousand
1	MK19	LASER MODULE, MK-19	162075	CCA, ENCODER	162103	18	17	23.661315%	53
2	MK19	AUDIO CUE DEVICE, MK-19	162928	CCA, AMP, ACD, MK-19	162944	15	16	19.976667%	44
3	MK19	OPERATOR MODULE, MK-19	162074	CCA, DECODER, MK-19	162141-1	12	12	14.628193%	36
4	MK19	LASER MODULE, MK-19	162075	COVER CONNECTOR ASSY -1 MK-19	162151-1	15	15	11.561290%	44
5	MK19	OPERATOR MODULE, MK-19	162074	CABLE ASSEMBLY, OPERATOR MODULE MK-19	162153	11	11	7.217481%	33







MBT Maintenance Actions Over Time

MBT Maintenance Actions by Lot Year

Lot Year (Date)	# of Work Orders
5/1/08 - 4/30/09	148
5/1/09 - 4/30/10	139
5/1/10 - 4/30/11	399
5/1/11 - 4/30/12	279
5/1/12 - 4/22/13	220

of Work Orders

Date	Lot Year	# of Work Orders
5/1/08 - 4/30/09	0	148
5/1/09 - 4/30/10	1	139
5/1/10 - 4/30/11	2	399
5/1/11 - 4/30/12	3	279
5/1/12 - 4/22/13	4	220

Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.

WARRIOR TRAINING ALLIANCE



MBT

SAIC Device Number: 23-100	
Report Period:	April 22, 2012 – April 22, 2013
System Fleet Size:	572

Top 5 Failures

#	System	Component Part Description	Component Part Number	Failed Part Description	Failed Part Number	# of Completed Work Orders	# of Consumed Parts	% of Total System WO Material Cost	Failures per Thousand
1	MBT	HUTT ENCODER, MBT	170131-1	ENCODER, HUTT, CCA	170134	2	2	38.446352%	47
2	MBT	DETECTOR BELT ASSEMBLY (SEG C)	12939369	DETECTOR ASSEMBLY, AIRCRAFT	12936482-1	4	10	13.517896%	94
3	MBT	TRANSMITTER ASSEMBLY, BRADLEY TOW	154560	RIFLESCOPE, 4-12X (Replaces 154573)	154573-1	1	1	10.126474%	24
4	MBT	DETECTOR BELT ASSEMBLY (SEG C)	12939369	CCA, DETECTOR AMP, (REP 9339906,1293943,154000)	136123	4	4	9.503490%	94
5	MBT	LASER TRANSMITTER, MBT	170143	DOOR, BATTERY, OSTS	23057	1	1	6.452292%	24









Legacy MILES Maintenance Actions Over Time



Date	Lot Year	# of Work Orders
5/1/08 - 4/30/09	0	88939
5/1/09 - 4/30/10	1	73585
5/1/10 - 4/30/11	2	51109
5/1/11 - 4/30/12	3	45051
5/1/12 - 4/22/13	4	36071

Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.

WARRIOR TRAINING ALLIANCE



Legacy

Lockheed Martin
Device Number: 07-56/1/2/3/3/5/6b/7/9/10/11/12/13/14/15/, 17-146, 23-06/07/100/55/, 99-68
Report Period: April 22, 2012 – April 22, 2013
System Fleet Size: 104,308

Top 5 Failures

#	System	Component Part Description	Component Part Number	Failed Part Description	Failed Part Number	# of Completed Work Orders	# of Consumed Parts	% of Total System WO Material Cost	Failures per Thousand
1	LEGC	LASER TRANSMITTER ASSEMBLY, M16A1/M16A2	9359249	CCA, SAT (REPLACES 9359155, UOPUD)	160272	428	435	6.866643%	10
2	LEGC	HARNESS ASSEMBLY, HELMET - MWLD	11748893	CCA, HELMET (REP 11749020)	136122	1016	1038	6.780399%	24
3	LEGC	LASER TRANSMITTER ASSEMBLY, M16A1/M16A2	9359249	MICROPHONE ASSEMBLY	9359279	1549	1548	6.714793%	37
4	LEGC	HARNESS ASSEMBLY, TORSO	11748856	CABLE, SHIELDED, 2 COND, 26 AWG	9353059	1022	6016.5	5.544482%	24
5	LEGC	LASER TRANSMITTER ASSEMBLY, M16A1/M16A2	9359249	LASER TUBE ASSEMBLY (SAT)	9359272-1	272	263	3.967549%	7











All System Maintenance Actions Over Time

	5/1/08 - 4/30/09	5/1/09 - 4/30/10	5/1/10 - 4/30/11	5/1/11 - 4/30/12	5/1/12 - 4/22/13

Y-axis: 0, 10000, 20000, 30000, 40000, 50000, 60000, 70000, 80000, 90000

Legend: IWS, LEGC, M2K, MBT, MK19, MXXI, SLM, UCD, WITS

WTA
WARRIOR TRAINING ALLIANCE

Note: Lot Year 4 ends on 4/30/2013. Data was pulled through the 22nd of April 2013.



Data Limitations

- Available utilization data only represents when a device is signed out and returned to the TSC (except at JMRC)
  - Cannot determine Ao or MTBF with available information
  - Materials and labor are forecasted on actual repair history
- It is not clear whether utilization is uniformly tracked at TSCs by serial number
  - Therefore it is not clear whether wear is evenly distributed
  - WTA now tracks inducted components by serial number





LB TESS

SMODIM Repair History by Year

SMODIM REPAIRS BY YEAR

YEAR	QTY
2007	57
2008	64
2009	18
2010	67
2011	43
2012	52
TOTAL	**301**
AVERAGE	**50**





LB TESS

GPS CCA Obsolescence Issues

- GPS Receiver, 3.3-5V no longer manufactured.
- Additional obsolete parts.

Solutions

- ICE engineered replacement in 2007.
- ICE conducted internal testing of EMI and performed limited environmental testing.
- ICE submitted report to USG for replacement approval as a suitable substitute.
- Replacement not approved without fill AWR testing to current standards.





LB TESS

CURRENT GPS AWR OBSTACLES

EMI testing would be required for the entire SMODM to MIL-STD-461F(possible G).

The SMODIM is currently qualified to 461C

GPS engine tested in 2008 is now obsolete

- Current there is a drop in placement
- Drop in replacement is available but not recommended for future designs





TDP Repository Comparison

- Running a comparison with the CMPRO Repository and the PM TRADE Sharepoint Repository we discovered the following:
  - 23 Devices had complete TDPs and were fully supportable
  - 45 Devices had some documentation TDPs and are not fully supportable
  - 4 Devices are pending TDP completion and/or LCS transition
  - Naming conventions between the repository needs to match
  - Improve process for transition and tracking of TDPs at LCS, this is being worked and already has improved
- This is a continuing effort, PM TRADE, PM Field OPS and Raytheon are working hard to complete all the program comparisons that are incomplete so that we can define what is needed in regards to missing data between repositories and what needs to be updated and/or requested for better and more efficient processing of data for WTA support.

WTA
WARRIOR TRAINING ALLIANCE



TDP Status Summary

The WTA CMPRO Repository Report shows the 23 Devices listed below have either full TDPs or have sufficient data to be fully supported.

17-243	MGSTESS	YES
23-80	M16A1, Basic MILES (Man Worn Laser Detector)	YES
23-80/4	Viper, Basic MILES	YES
23-80/5	M113 APC kit, Basic MILES	YES
23-80/9	Simulator system Controller gun, Laser Basic MILES	YES
23-80/10	M2.M3 Bradley, Basic MILES	YES
23-80/12	M1 TANK ABRAMS Basic MILES	YES
23-80/13	M16A1/A2, Basic MILES (Man Worn Laser Detector0	YES
23-80/14	M249 Machine Gun Basic MILES	YES
23-80/15	Mobile Independent Target System (MITS) Basic MILES	YES
23-88	M4/M203 WEAPON, W/MILES ADAPTOR, BASIC MILES	YES
23-89	M240 Machine gun MILES ADAPTOR Basic MILES	YES
23-91	Indicator Laser Target Interface Device (LTID)	YES
07-65	AGES II - Aviation TES	YES
23-6	M1/M1A1 Tank (SAWE/MILES II)	YES
23-7	M2/M3 Bradley (SAWE/MILES II)	YES
23-11	M113 APC (SAWE/MILES II)	YES
23-11A	M113 APC SAWE	YES
23-92	Main Gun Signature Simulator (MGSS)	YES
05-114	Improvised Explosive Device Effects Simulator (IEDES), A&B kits	YES
44-54	Avenger Systems	YES
07-162	CCMCK	YES
30-30	CREW 2	YES

YES	Means WTA has a full TDP and is able to fully support on WFF.
PENDING	Means PEO STRI is in the process of obtaining the TDP.
SOME	Means WTA has partial TDP and can somewhat support but needs and has requested more data i.e. source files.
NO	Means that WTA has no TDP and can not support via WFF at this time.

WTA
WARRIOR TRAINING ALLIANCE



TDP Status Summary Cont'd

The 45 Devices listed below have partial or "some" data. These items are listed as NOT fully supportable because the TDP is inadequate for full maintenance and sustainment.

17-172	PGS - Precision Gunnery System	SOME	23-25	M2K, M240 Machine gun kit	SOME
23-98	MK19	SOME	23-26	M2K, M2 Machine gun kit	SOME
23-98/1	Control Gun, MK19	SOME	23-27	M2K AT4 kit	SOME
23-101	Universal Controller Device, IMILES	SOME	23-28	M2K, TOW Ground Mount/Day Tracker Kit	SOME
23-102/A	SLM, AT4 IMILES	SOME	23-29	M2K, M113 Vehicle kit	SOME
23-102/B	SLM, RPG	SOME	23-50	M2K, M1/M1A/M1A2 Kit	SOME
23-102	Shoulder Launched Munitions	SOME	23-51	M2K M2/M3 Bradley Fighting Vehicle	SOME
23-100	MILES, OPFOR MBT	SOME	23-52	M2K Independent Target System (ITS)	SOME
23-14/A	Universal Detection System, Expansion	SOME	23-53	M2K Controller Device/Training Data Transfer Device	SOME
23-66	M2 IWS (Machine Gun Kit)	SOME	23-55	Stinger MILES (OPFOR)	SOME
23-67	M16/M4 IWS (Man Worn Laser Detector Set	SOME	23-58	M2K ASAAF Kit	SOME
23-69	IWS	SOME	23-97	UNITECH/ICON (SAIC) ITS	SOME
23-70	M240 IWS (Machine Gun Kit)	SOME	23-97/1	DIFCUE	SOME
23-71	M249 IWS (Squad Automatic Weapon Kit)	SOME	23-94	MILES XXI, Common Kit	SOME
23-77	IMILES IWS MAJIK box	SOME	23-95	MILES XXI M2 Bradley kit	SOME
23-79	Sniper systems, IMILES based	SOME	23-96	MILES XXI M1 Tank kit	SOME
23-97/A	WITS, Basic	SOME	23-99	MILES XXI Stryker kits	SOME
23-97/B	WITS, M113	SOME	23-99/6	Control Gun, MILES XXI	SOME
23-97/C	WITS, Basic (2.4 GHz)	SOME	23-103	Anti Tank Guided Missle (ATGM) Simulated Tow	SOME
23-20	M2K, M16A/A2 (Man Worn Laser Detector set)	SOME	23-105	Vehicle Instrumentation Interface Package (VIIP)	SOME
23-22	M2K, M249 SAW Kit	SOME	23-93	MILES kit, OPFOR OSV	SOME
07-162	CCMCK	SOME	Supporting	Dry Fire Cable, Trigger, M16A1, M16A1/A2	SOME

YES	Means WTA has a full TDP and is able to fully support on WFF.
PENDING	Means PEO STRI is in the process of obtaining the TDP.
SOME	Means WTA has partial TDP and can somewhat support but needs and has requested more data i.e. source files.
NO	Means that WTA has no TDP and can not support via WFF at this time.





TDP Status Summary Cont'd

Listed below are Systems pending a complete TDP. More research is being done by the working group to resolve.

System	TDP
IWS 2	PENDING
TVS	PENDING
CVTESS	PENDING
(MAST/ITAS-TESS)	PENDING

YES	Means WTA has a full TDP and is able to fully support on WFF.
PENDING	Means PEO STRI is in the process of obtaining the TDP.
SOME	Means WTA has partial TDP and can somewhat support but needs and has requested more data i.e. source files.
NO	Means that WTA has no TDP and can not support via WFF at this time.





Conclusion

- **The fleet is being sustained and overall is reasonably healthy**
- **Newer TES brings greater capabilities; however, it can cost more to sustain**
- **Era of declining resources combined with increase in homestation training**
- **PM TRADE/LTS and PM FIELD OPS are cooperating and coordinating better than ever to ensure better lifecycle management**
- **Tech Data is getting more attention than before, because of its impact on lifecycle costs**
- **TRADE and FIELD OPS are looking for solutions to decrease lifecycle costs for fielded and new systems**

WTA
WARRIOR TRAINING ALLIANCE